applied to agricultural fields after being pumped into a spray truck or the settling basins. Ex. 6 to Snyder Decl. at 178:24-181:11.

52. Adjacent to the Safety Debris Basin is another "stormwater catch basin," as it was described to me during the October 2013 inspection of Cow Palace Dairy. This stormwater catch basin is not part of the Cow Palace DNMP and not identified as a lagoon for implementation of the AOC, even though the basin had stored manure-contaminated water in the past. I have not seen any information about the construction of this basin or its dimensions, other than the information gained by personal observation.

53. The photographs below depict the condition of the Safety Debris Basin, adjacent storm water catch basin, and surrounding features as they were during Plaintiffs' October 2013 and May 2014 inspections.

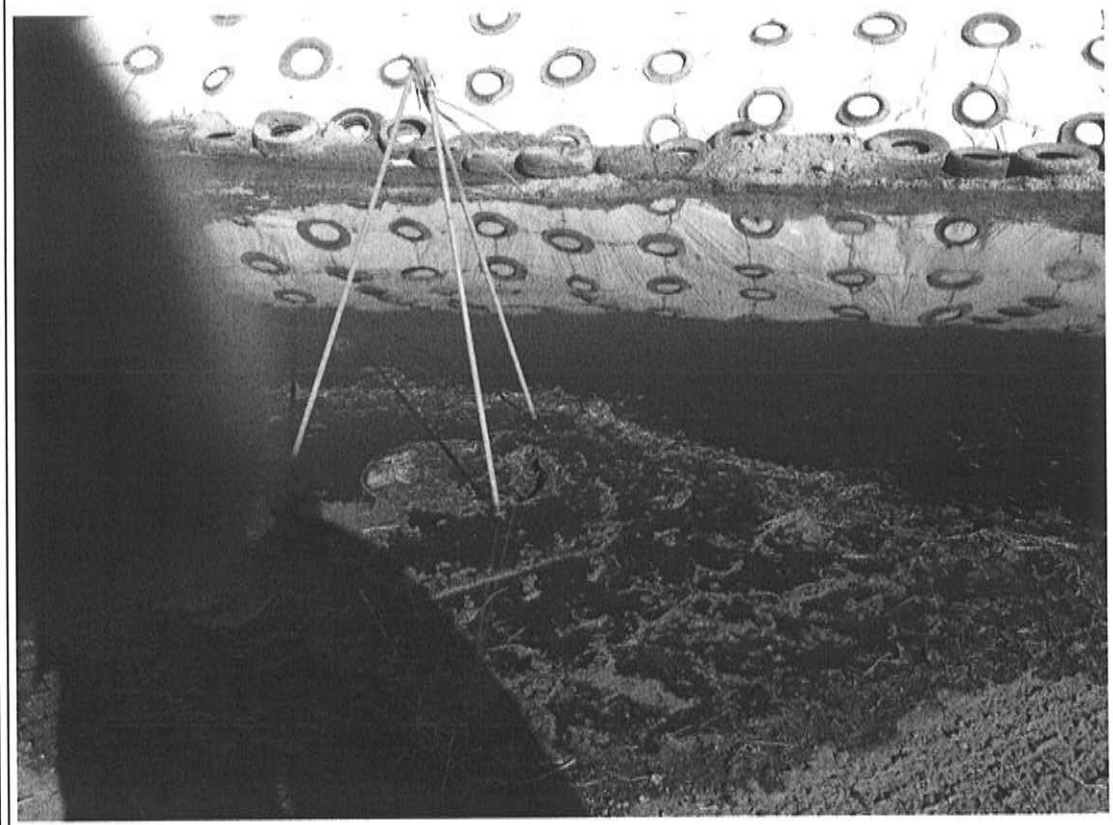


Photo: View during October 2013 inspection of drop inlet near Safety Debris Basin collecting silage leachate. Leachate was being conveyed through a pipe and discharged into Safety Debris Basin.

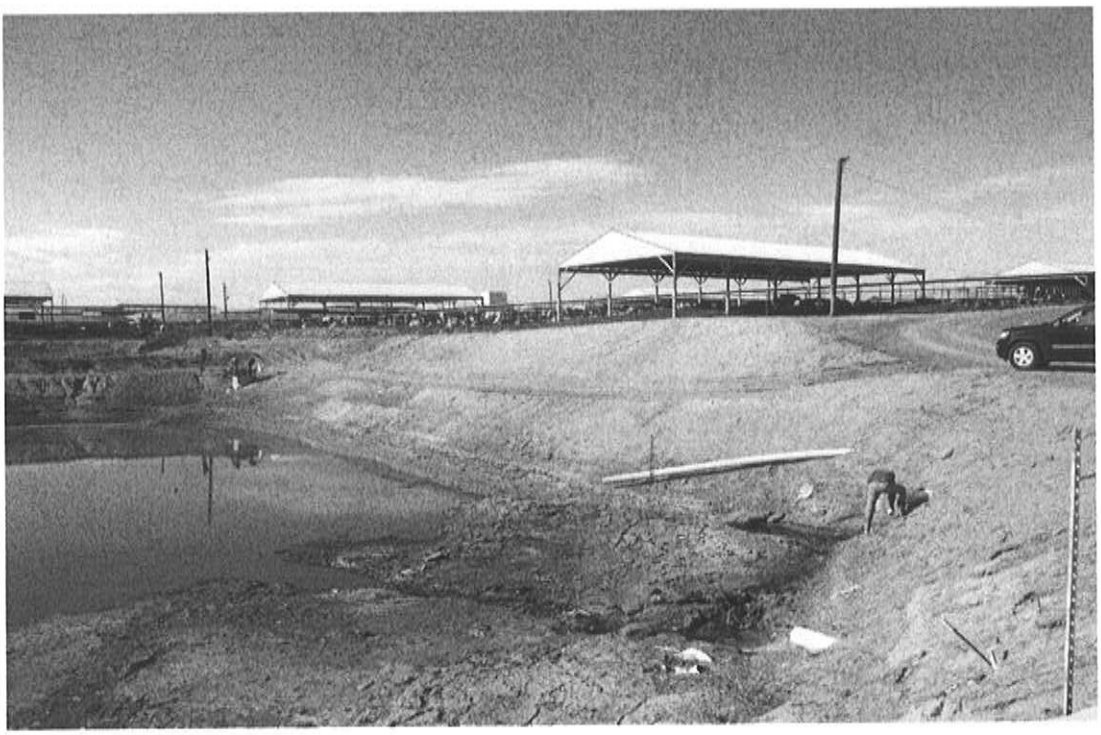


Photo: View during October 2013 inspection of Safety Debris Basin. A sample of silage leachate being discharged into the basin is being collected at right.

Photo: View to south during May 2014 inspection. Safety Debris Basin visible at left and storm water catch basin at right.

54. There is no question that Safety Debris Basin and the adjacent stormwater catch basin discharge liquid into the ground.

55. Cow Palace does not use liquid that leaks from the Safety Debris Basin and the stormwater catch basin as fertilizer. Ex. 8 at 5-6. From my observations, there are no crops in that immediate area that could use the manure as fertilizer, especially considering that the Safety Debris Basin's bottom depth is below crop rooting zones. As such, the manure that leaks from the Safety Debris Basin has only one final destination: groundwater.

56. My conclusions about the Safety Debris Basin are reinforced by

sampling accomplished by Plaintiffs during their October 2013 and May 2014 site visits of Cow Palace Dairy. During the 2013 visit, I oversaw the collection of a sample of silage leachate that was being collected from the base of a silage pile into a drop inlet with a grated manhole cover, conveyed in a buried pipe, and discharged into the Basin. The sample contained nitrate at a concentration of 29.5 ppm, ammonia at 574 ppm, and a total nitrogen content of 2,850 ppm. Erosion can occur at pipe discharge locations, especially when liquid falls some distance from the end of the pipe to the discharge point (as depicted in the photographs above), and would likely compromise any manure seal that would otherwise be present in the basin.

57. During the 2014 visit, I supervised the use of a Geoprobe hydraulic probe to collect soil core samples from the dike between the Safety Debris Basin and the stormwater catch basin. A table of the results is presented below. Although perched groundwater was not encountered in this boring, the lithology was observed to be a highly-layered depositional environment, which is typically commensurate with discrete zones of perched water. Several of the layers at depths up to 18 feet bgs exhibited elevated nitrate concentrations, indicating that contaminated liquid had been in contact with the subsurface soil.

Sample ID	Sample Date	Depth	pH, SU	Phosphorus, ppm	Nitrate, ppm	Ammoniu m-N, ppm
CP-SB-04C-8-10	5/22/2014	8-10	7.7	38	20.3	1.1
CP-SB-04C-10-12	5/22/2014	10-12	7.7	5.1	18.2	0.9
CP-SB-04C-13-15	5/22/2014	13-15	7.8	4.9	14.4	0.8
CP-SB-04C-15-16	5/22/2014	15-16	7.7	5.9	27	1.2
CP-SB-04-17.8-18.2	5/19/2014	17.8-18.2	7.2	10.7	22	4.4
CP-SB-04-19.5-20	5/19/2014	19.5-20	8	< 1.4	2.9	2
CP-SB-04C-20-23	5/22/2014	20-23	7.8	< 1.4	7.8	0.5
CP-SB-04C-27-30	5/22/2014	27-30	7.6	2.1	6.1	0.6
CP-SB-04C-45.5-47	5/22/2014	45.5-47	7.8	< 1.4	1.2	7.5

58. These results support my opinion that the Safety Debris Basin and the stormwater catch basin leak liquid. That nitrates, and ammonium, were present deep in the soil shows that these lagoons are leaking liquid manure.

Catch Basin NW

59. The Catch Basin NW at Cow Palace Dairy is 135 ft. x 242 ft. by 25 ft. deep, with a calculated storage capacity of approximately 3,100,100 gallons, or 9.4 acre feet. Ex. 5 to Snyder Decl. at COWPAL000474. The Basin does not contain any type of geosynthetic liner, but was instead constructed into the ground using a soil-lined bottom.

60. The Catch Basin NW is designed to catch stormwater run-off from the cow pens that are located nearby, to collect run-off from the compost area, and to collect runoff and wastewater from the calf barn. Ex. 6 to Snyder Decl. at 192:22-193:5. The liquid contained in the Basin can be pumped to the settling basins, where it can later be applied to fields. *Id.* at 194:10-195:5.

61. When drilling monitoring well YVD-06 on August 17, 2013, Cow Palace's contractors noticed that there was an "effervescing" in the nearby Catch Basin NW. The bubbling was noticed as the boring was advanced from 100 ft. to 128 ft. bgs, where 20 feet of sandy gravel, a very permeable soil type, was encountered. The bubbling spot in the lagoon was 50 feet

north of the edge of the lagoon toward the center of the impoundment. Cow Palace confirmed that the bubbling was only noticed when the air rotary drill was in operation. DAIRIES002890 and DAIRIES000038-41, attached hereto as Exhibit 9. The air rotary drilling operation uses high pressure, high volume air injection to remove the cuttings from the borehole. The air injection is usually in the range of 900 cubic feet per minute at 300 pounds per square inch. After starting and stopping the air injection, it was verified that the air rotary drill was causing bubbling less than 50 feet away. This bubbling demonstrates that both the subsurface is very permeable with discrete vertical flowpaths and that Catch Basin NW liner was not a significant barrier to fluid migration, likely discharging large amounts of manure liquid to the ground and groundwater. The air injection also finds the path of least resistance through the subsurface material, directly indicating that the subsurface contains preferential flowpaths that can transmit significant quantities of fluid to ground water. At the time, the lagoon was approximately 35 percent full of material. Ex. 6 to Snyder Decl. at 199:3-5 (Boivin Tr.). These data further indicate the likelihood that a majority of the leakage in the lagoons occurs in discrete preferential pathways within the footprint of the lagoon.

62. Cow Palace drained the lagoon soon thereafter, re-sloping the sides

and re-compacting the soil liner. *Id.* at 198:5-12. No soil permeability tests or core tests were taken at this time. *Id.* at 201:5-14. It is highly suspect why Cow Palace decided not to take or report soil permeability tests for the Catch Basin, considering it had been completely drawn down, re-sloped, and re-compacted, and that it had an obligation under the AOC to demonstrate that its lagoons met the NRCS WA 313 standard. In addition, when we visited the lagoon in the fall of 2013, it had been emptied and a new soil liner was placed and compacted. Visual observation of the liner and physical inspection (including rubbing some of the material between my fingers to determine silt, sand and clay concentration), indicated it was a fine sand to silt texture, not a compacted clay liner. At that time, wastewater from the calf pens was running into a small impoundment in the northwest corner of the lagoon at a rate of 5 to 10 gallons per minute. The small impoundment was less than 10' by 10' and 2' deep. During our two day tour, the flow was fairly constant and the small holding area never overflowed, indicating that infiltration was taking place at a rate roughly equal to the rate of flow into the bermed area minus a small evaporation component.

Photo. View of NW Catchment Basin during October site visit. New liner with significant erosion from infall pipes is shown.

Photo. View of NW Catchment Basin. Outfall from calf pens with liquid

infiltrating is shown.

63. The photos above represent the condition of the Catch Basin NW as it was at the time of Plaintiffs' October 2013 inspection. As is evident from the photographs, Cow Palace had recently completed re-sloping the sides and compacting the soil liner.

64. There is no question that the Catch Basin NW discharges liquid waste and manure into the ground, especially considering that operation of an air rotary drill 50 feet away provided sufficient air pressure to penetrate the liner of the impoundment, even at 35% capacity. Assuming that the Lagoon has a soil liner that is one foot thick and contains liquid during at least six month per year, the Basin leaks between 831 and 8,314 gallons of manure per day, or between 160,000 and 1.6 million gallons/year depending on the specific permeability of the soil. Given, however, that the soil types in the area are of moderate to high permeability, and that Cow Palace has not maintained its manure seal properly, the specific discharge amounts are likely on the high end of my calculations.

* NUMBERS DIFFER BY ORDER OF MAGNITUDE FROM EXPERT REPORT. A 93

65. Given the location of this Basin and the depth of the bottom of the lagoon, once the liquid seeps from the lagoon, there is no opportunity for plant uptake of nutrients. The leakage will migrate through the soil under gravity drainage conditions until it encounters a perched water table or the

ground water table where it will contaminate the ground water.

Catch Basin NE

66. The Catch Basin NE at Cow Palace Dairy is 130 ft. x 175 ft. by 8 ft. deep, with a calculated storage capacity of approximately 1,100,000 gallons, or 3.4 acre feet. Ex. 5 to Snyder Decl. at COWPAL000474. The Basin does not contain any type of geosynthetic liner, but was instead constructed into the ground using a soil-lined bottom.

67. The Catch Basin NE is designed to catch stormwater run-off from the cow pens that are located nearby, to collect run-off from the truck wash station, and to collect runoff from the silage area. Ex. 6 to Snyder Decl. at 185:4-7. The liquid contained in the Basin can be pumped to the settling basins, where it can later be applied to fields. *Id.* at 185:17-25.

68. The photos below represent the condition of the Catch Basin NE as it was at the time of Plaintiffs' October 2013 inspection.

Photo. View of NE Catchment Basin. Note erosion from inflow and lack of manure seal.

69. Based on observations, this basin contains liquid during most of the year. Assuming the basin has 4 feet of liquid, and the manure seal provides a one order of magnitude seal, the following table summarizes the suspected leakage from the basin.

Q = KiA		
K=	0.000001	cm/sec
i=	4	ft
A=	22750	ft2
Q=	1,930	Gallons/day
	57,892	Gallons/month
	704,351	Gallons/year

There is no question that the Catch Basin NE discharges liquid manure and

other liquid wastes into the ground. Even assuming that the lagoon has a soil liner that is one foot thick, and a liner permeability of 1 x 10^{-7} cm/sec while maintaining the lagoon under half-full conditions, the Catch Basin NE leaks 193 gallons per day, assuming that the pond is half-full at least 4 months of the year. Given, however, that the soil types in the area are of moderate to high permeability, and that Cow Palace has not maintained its manure seal properly, I believe that the specific discharge amounts are likely on the high end of my calculations.

* NUMBERS DIFFER BY ORDER OF MAGNITUDE. PG 98 OF EXPERT REPORT

Stormwater Pumpback Pond / Tailwater Pond / "Tailwater Catching Pond"

70. Cow Palace uses three tailwater recovery ponds located to the south of the Dairy and to the south of most of its application fields. Ex. 7 at DAIRIES000915. These ponds are designed to catch run-off from the Dairy's application fields, and contain manure nutrients from manure application runoff. Ex. 6 to Snyder Decl. at 218:23-219:11. The ponds do not contain any type of geosynthetic liner, but were instead constructed into the ground using a soil-lined bottom. *Id.* at 225:3-5.

71. Plaintiffs sampled one of the tailwater recovery ponds during their October Rule 34 inspection of Cow Palace Dairy. The recovery pond that was sampled is located just off Knowles Road, in the southwest corner of

one of Cow Palace's application fields. Nitrogen (Ammonia as N) was observed at 90 mg/L; Total Kjeldahl Nitrogen was 128 mg/L; phosphorus was 12 mg/L; calcium was reported at 104 mg/L; magnesium at 51 mg/L; potassium at 257 mg/L; and sodium at 107 mg/L. These results confirm that the tailwater recovery pond contains substantial amounts of manure related nutrients from manure runoff.

72. Plaintiffs also sampled a tailwater recovery pond at the southwest corner of Cow Palace Field 2. That pond had lower concentrations of manure-related contaminants. Given that the pond has no liner, however, these contaminants will contribute, though less than other sources, to the contamination of the groundwater.

73. Cow Palace pumps the water that is recovered in these ponds back into their applications fields once the ponds are approximately two-thirds full. No manure nutrient sampling is conducted before applying liquids from these ponds. *Id.* at 222:12-15.

74. There is no question that the tailwater recovery ponds discharge manure-contaminated water into the ground. The concentration of the discharge is, of course, dependent on the water quality in the tailwater pond, but the amount of discharge would still occur. There was no evidence of construction of a liner and since the water is runoff from fields, it does not

contain the same volume of manure solids as the other process lagoons. As a result, assuming that a manure seal would form is not correct. These ponds appeared to be constructed by placing a berm or dike across the downgradient side of the natural drainage, most likely without any construction of a liner. Assuming that the recovery ponds have a soil liner that is one foot thick that reduce the permeability to 1x10-6 and the ponds contain water during most of the year, then the total pond leakage from these three ponds is at least 6,777 gallons per day, or 2.47 million gallons/year depending on the specific permeability of the soil. Given, however, that the soil types in the area are of moderate to high permeability, and that there are no manure seals on these recovery ponds, the specific discharge amounts are likely higher.

Haak Dairy Lagoon Cores

75. While there is some range of uncertainty in the calculations outlined *supra*, as stated above, I believe to a reasonable degree of scientific certainty that Cow Palace's lagoons are and have been seeping manure into the ground and groundwater since each came into active operational use. I further believe that the specific discharge rate for each lagoon likely falls into the higher range of my estimates, because of the lagoon construction methods, the permeable soil beneath the lagoons, the lack of an actual liner,

the observation of coarse-grained material in the liner footprint, the erosional features observed, the soil sampling results near the lagoons, and an industry standard that allows significant seepage.

76. The opinions expressed above concerning discharges from Cow Palace's lagoons, basins, and recovery ponds are reinforced by the data results obtained by Plaintiffs' from the Haak Dairy's manure storage lagoon.

Photo. Collecting Geoprobe samples in the Bottom of Haak Lagoon.

77. On May 23, 2014, I supervised the use of the Geoprobe hydraulic drill within Haak Dairy's large manure storage lagoon, which had been previously emptied some 7 months earlier in October 2013; mechanically excavated and scraped in November, 2013, which removed any type of "manure seal" that would have been present, and any other remaining solid

manure; and then taken out of active service.

78. From my observations, the Haak lagoon that was tested is, most likely, very similar to the lagoons at Cow Palace Dairy, given the age of the facility and the similar manure handling processes. The Haak lagoon has no geosynthetic liners, but rather was constructed into the ground using native soils with no evidence of construction of a soil liner, just like the Cow Palace impoundments. When investigating the lagoon, limited areas of a 2-inch thick manure "seal" were visible. Immediately beneath the seal was native soil with no evidence of soil different from the native or mechanical compaction. The native soils in the area are nearly identical to the soils found at Cow Palace; underlying the Haak Dairy, the predominant soils appear to be Warden silt loam, which is also similar to Cow Palace. Excerpts from the Haak DNMP which identify the underlying soil types at Haak Dairy are attached hereto as Exhibit 10. Accordingly, I believe that a core sampling within the Haak Dairy lagoon provides a good approximation of what one would expect to find if the same tests were conducted in any one of Cow Palace's lagoons.

79. The photographs below depict the Haak lagoon that was tested as of the date of Plaintiffs' testing.

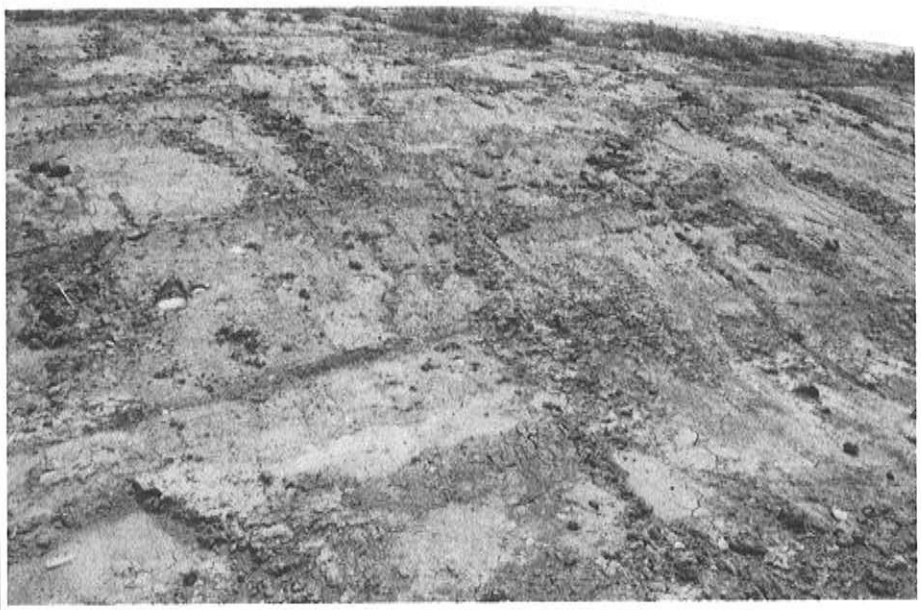


Photo: Side of Haak Lagoon with manure cake and native soil exposed. Note gravel and cobbles.

Photo. Bottom of Haak lagoon with native soil and wire.

80. The analytical results of Plaintiffs' sampling of the Haak Lagoon are

contained in the chart below.

Sample ID	Sample Date	Depth	pH, SU	Phosphorus, ppm	Nitrate, ppm	Ammonium-N, ppm	Total Nitrogen/Solid, mg/kg
HD-SB-01-0-1	5/23/2014	0-1	8.1	69.7	94.5	750	1310
HD-SB-01-1-2	5/23/2014	1-2	8.4	12.7	8.4	300	428
HD-SB-01-2-3	5/23/2014	2-3	8.1	8.1	1.4	16	131
HD-SB-01-3-4	5/23/2014	3-4	7.8	6.8	1.5	6.2	124
HD-SB-01-4-5	5/23/2014	4-5	7.4	3.6	0.8	16	< 100
HD-SB-01-5-6	5/23/2014	5-6	7	5.5	1.2	52	163
HD-SB-01-6-7	5/23/2014	6-7	7.2	4.6	1.7	33	172
HD-SB-01-7-8	5/23/2014	7-8	7.1	4.5	1.4	4.9	105
HD-SB-01-8-9	5/23/2014	8-9	7.4	2.5 J	16.1	2.1	115
HD-SB-01-9-10	5/23/2014	9-10	7.6	3	3.7	2.6	< 100
HD-SB-01-10-11	5/23/2014	10-11	7.4	4.5	1.7	1.8	< 100

HD-SB-01-11-12	5/23/2014	11-12	7.4	3.8	1.8	1.3	< 100
HD-SB-01-12-13	5/23/2014	12-13	7.2	4.7	1.6	2.7	< 100
HD-SB-01-13-14	5/23/2014	13-14	7.2	3.8	1.5	1.6	< 100
HD-SB-01-14-15	5/23/2014	14-15	7.6	5.9	1.7	1.5	< 100
HD-SB-01-15-18	5/23/2014	15-18	7.3	4.9	1.6	1.7	< 100
HD-SB-01-18-20	5/23/2014	18-20	7.6	4.9	1.7	1.3	113
HD-SB-01-20-22	5/23/2014	20-22	7.5	5.7	1.9	1.3	< 100
HD-SB-01-22-24	5/23/2014	22-24	7.5	4	2.2	1.5	< 100
HD-SB-01-26-28.5	5/23/2014	26-28.5	7.5	4.7	2.8	1.5	< 100
HD-SB-01-30-32	5/23/2014	30-32	7.2	5	2.3	2.6	< 100

HD-SB-01-34-37	5/23/2014	34-37	7.2	5.2	3.1	2.6	106
HD-SB-01-41-43	5/23/2014	41-43	7.2	3.9	2.1	1.7	< 100
HD-SB-01-43-45	5/23/2014	43-45	7.3	3.6	3.1	3.9	108

81. In total, Plaintiffs probed 45 ft. into the soil below the bottom of the Haak lagoon. Soil samples were collected throughout the soil profile and ground water samples were collected from one of the two perched zones beneath the lagoon. The other zone, though saturated, did not produce enough water to sample within the few hour time we were allowed to be present. These perched zones are direct evidence of preferential pathways beneath the lagoons that transmit water or seepage from the lagoon into the subsurface, which eventually will encounter the ground water table.

82. There were substantial concentrations of nitrate, phosphorus, and ammonium in the first foot underlying the Haak Lagoon. Nitrate was observed at 94.5 ppm, phosphorus at 69.7 ppm, and Ammonium at 750 ppm. This is highly indicative that liquid manure was seeping through the bottom of the Haak Lagoon.

83. In the second foot, both phosphorus and nitrate concentrations dropped to 12.7 ppm and 8.4 ppm, respectively. The phosphorus is adsorbed to the soil and only continues to migrate as the capacity of the soil is saturated.

84. More interesting is the conversion from Ammonium to Nitrate that occurs as the liquid seeps into the more oxygen rich soil. Once nitrate is formed, it is both highly soluble and highly mobile in the soil moisture.

With a partitioning coefficient near zero, nitrate migrates in the water and is flushed through the soil very quickly with little attenuation. The concentration of nitrate in the soil is more related to soil moisture conditions than soil absorption capacities.

85. When a permeable flowpath is encountered near the bottom of the lagoon, this leachate is transmitted along that flowpath and migrates deeper into the subsurface. The soil data shows evidence of this migration in the 5-6' zone, where the ammonium concentration increases.

86. While levels of nitrate and phosphorus drop off after the first two feet, the fact that they are present in the soils underlying the lagoon, and considering that there are no other immediate nitrate or phosphorus sources, demonstrate that the Haak Lagoon, and lagoons of a similar construction, are sources of nitrate contamination. Under unsaturated flow conditions, seepage will find the more permeable sand and gravel zones and a majority of the liquid discharge will migrate in a few locations.

87. Overall, the data obtained from the Haak Lagoon boring further supports my conclusions that the lagoons at Cow Palace Dairy are leaking liquid manure into the ground and groundwater, and are therefore an additional source of the nitrate contamination observed in monitoring wells downgradient.

COW PALACE'S COMPOSTING OPERATIONS ARE ANOTHER SOURCE OF THE NITRATE CONTAMINATION OBSERVED IN THE GROUNDWATER

88. Another source of nitrate loading to groundwater is Cow Palace's composting area. I have personally observed the composting area at Cow Palace twice, in October 2013 and in May 2014. From my observations, solid manure is composted at Cow Palace on bare soil, without any concrete pads or other less permeable surfaces. The photographs below fairly depict the composting area as I observed it in October 2013 and May 2014.

Photo. Cow Palace compost processing area.

Photo. Soil sample collection in Compost Area.

89. Plaintiffs obtained one boring sample using a Geoprobe from Cow Palace's composting area, CP-SB-12, in May 2014. The map below shows the approximate location where the boring occurred. The results of Plaintiffs' sampling are depicted in the table below:

Sample ID	Sample Date	Depth	pH, SU	Phosphorus ppm	Nitrate ppm	Ammonium-N, ppm	Total Nitrogen/Solid, mg/kg
CP-SB-12-0-1	5/19/2014	0-1	8.9	330	12.3	100	2170
CP-SB-12-1-2	5/19/2014	1-2	8	270	5.5	70	1680
CP-SB-12-2-3	5/19/2014	2-3	7.6	51.6	1	20	869
CP-SB-12-3-4	5/19/2014	3-4	7.6	59.4	0.9	14	8210
CP-SB-12-4-5	5/19/2014	4-5	7.5	35.3	49.6	4.5	602
CP-SB-12-5-6	5/19/2014	5-6	7.7	20.2	1.6	12	450
CP-SB-12-6-7	5/19/2014	6-7	7.7	26.4	1	100	818
CP-SB-12-7-8	5/19/2014	7-8	8.6	462	0.9	95	2600
CP-SB-12-8-9	5/19/2014	8-9	8.7	1970	6.8	180	5720
CP-SB-12-10-11	5/19/2014	10-11	8	161	1.6	83	1930
CP-SB-12-11-12	5/19/2014	11-12	8.2	65.2	4.2	19	832
CP-SB-12-12-13	5/19/2014	12-13	7.6	5.1	8.4	5.9	276
CP-SB-12-15-16	5/19/2014	15-16	8.1	7.2	5.1	5.2	133
CP-SB-12- 16-17	5/19/2014	16-17	7.9	2.9	2.1	3.5	< 100
CP-SB-12-17-18	5/19/2014	17-18	7.8	1.5	4.3	2.5	< 100

90. These results show that Cow Palace's composting area is another significant source of nitrate loading to soil and groundwater from the Dairy. Observations in the area indicate both high liquid content in the compost piles and infiltration of any precipitation that falls on the compost area. Subsurface data indicates vertical migration of nitrates, ammonium and phosphorus and accumulation in the 8-9' sample that again indicates the potential for perched zones and migration along preferential pathways. The high nitrate result of 49.6 ppm observed at the 4-5 foot depth, combined with the high ammonium levels observed at the 6-7 foot depth (100 ppm) and the 8-9 foot depth (180 ppm), and the high overall nitrogen content of, e.g., 5720 ppm at 8-9 foot depth, are highly indicative of manure leachate infiltrating into the ground from the composting area. The high phosphorus result obtained in the 9-10 foot depth further corroborates that contamination is seeping through the soil in the composting area. There, phosphorus was observed at 1970 ppm, an exceptionally high number for that deep in the soil. In addition, the high organic nitrogen content indicated a source for continued decomposition and the production of ammonium beneath the composting area.

91. The only present source of the nitrate observed in this boring is the composting area located on the surface. Importantly, because there are no crops planted in the composting area or nearby that could make use of the nitrate as fertilizer, and given that the soils underlying Cow Palace are not suitable for

denitrification, as discussed *supra,* the only destination for the nitrates observed in the soil boring is dissolution into soil moisture, and migration along preferential pathways with a final destination into the area groundwater.

92. In conclusion, these boring results show that Cow Palace's composting area is a source of nitrate loading to groundwater from the Dairy. The excess manure constituents, such as nitrate, ammonium, total nitrogen and phosphorus, observed beneath the composting area demonstrate that Cow Palace's composting operations are causing manure and its associated constituents to leach through the permeable soils. They thereafter move deeper into the ground where they cannot be used as fertilizer, either by Cow Palace or the recipients of Cow Palace's exported compost. They will eventually reach groundwater with further precipitation and continued moisture addition from the composted material.

93. Based on the data collected by the plaintiffs and investigation directed by the EPA, the widespread ground water contamination beneath and downgradient from the Cow Palace is directly sourced from both the cow pens, lagoons, compost area and application fields. All facilities show contamination of soil and liquid handling facilities are designed to allow seepage.

94. Additional detailed investigation is required to characterize the extent and magnitude each source area contributes to the overall contaminant plume. The investigations should include characterization of the vadose zone and ground

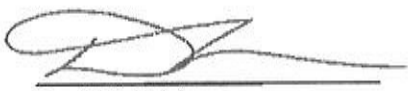
water, in a level of detail consistent with the present state-of-the-industry investigation techniques.

95. Given both the size and concentration of the ground water impacts, it is unreasonable that the ground water contamination is a result of anything but the Dairy operations.

///

Pursuant to 28 U.S.C. § 1746, I verify under penalty of perjury the foregoing is true and correct.

Dated: November 17, 2014



David J. Erickson
President and Hydrogeologist
Water & Environmental Technologies, PC

CERTIFICATE OF MAILING

I hereby certify that on November 17, 2014 I filed a true and correct copy of the foregoing document under seal with the Clerk of Court using the CM/ECF system. Pursuant to the procedures for filing under seal, service will be accomplished by other means to the following:

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